REMARKS

Claims 1-7, 9-12 and 14-17 are pending in the Application and are now presented for examination. Claims 1-3, 9-11 and 14 have been amended. Claims 8, 13 and 18 have been cancelled without prejudice and without disclaimer of subject matter. No new matter has been added.

Claims 1, 9 and 14 are independent.

On page 2 of the Office Action, Claim 18 is objected to as being a duplicate of Claim 13. Claim 18 has herein been cancelled, thereby rendering the objection to this claim moot.

Claim Rejections under 35 U.S.C. § 102(e)

On page 2 of the Office Action, Claims 1, 3, 8-9, 13 and 18 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application No.: 2003/0053664 A1 to Pavlidis et al. ("Pavlidis"). In order to anticipate a claim, a reference must disclose each and every element of the claim. As an initial matter, Claims 8, 13 and 18 have been cancelled, thereby rendering the rejections of these claims moot. Applicant asserts that Pavlidis does not teach every element of claims 1, 3 and 8. Accordingly, Applicant believes that Claims 1, 3 and 8 are patentable.

Independent Claim 1 has been amended to recite "a **visible** light source" and "a light source controller configured to control an illumination level of said **visible** light source to achieve **contrast on a human face** to capture an image thereof" (emphasis added). Support for the newly amended language may be found at page 4, lines 22-28. Specifically, the specification states "the light source controller 110 may control the light source 114 to illuminate the person's face 112 at a level selected to achieve appropriate ***contrast*** on the face to reliably capture an image thereof" (emphasis added). The term "contrast" is defined as "the difference in brightness

between the light and dark areas of a picture, such as a photograph or video image."[1] Brightness is "the location of a visual perception along a continuum from black to white."[2] As contrast is a term relating to ***visual*** properties, it is clear that the system recited in Claim 1 extends only to the visible light spectrum. The newly amended features of Claim 1 are not taught or anticipated by Pavlidis.

Regarding independent Claim 1, the Office Action characterizes Pavlidis as disclosing "a light source controller configured to control an illumination level of a light source in response to ambient light; a camera configured to capture am image of an object illuminated by said light source; and a computer configured to compare data representative of said image to stored image data. (Internal citations omitted). However, the camera disclosed by Pavlidis functions within the reflected infrared portion of the spectrum, not the visible light portion. *See* Pavlidis, page 5, ¶ [0071]. Furthermore, the controllable light source disclosed by Pavlidis is a "***near-infrared*** lamp," not a ***visible*** light source. Pavlidis actually teaches away from the features recited in Claim 1 by highlighting problems commonly associated with visible light imaging systems such as varying noise conditions, the need for artificial lighting, and most importantly, differences in the physiological characteristics (e.g., dark or light) of a human face. *See* Pavlidis, page 5, ¶ [0071]. Pavlidis teaches using an infrared camera to capture facial images because "human faces have a consistent light color in thermal infrared imaging, despite various facial colors, which is contrary to visible imaging." *See* Pavlidis, page 5, ¶ [0072].

1. *See* http://dictionary.reference.com/browse/contrast.
2. *See* http://dictionary.reference.com/browse/brightness.

Additionally, Pavlidis does not teach adjusting the illumination level of a **visible** light source to achieve **contrast on a human face** to capture an image thereof. Pavlidis does not mention contrast levels in relation to a human face. Because Pavlidis does not teach each and every element as recited in amended Claim 1, the withdrawal of this rejection is earnestly solicited.

Claim 3, is directly dependent from independent Claim 1, discussed above. This claim recites additional limitations which, in conformity with the features recited in independent Claim 1, are not disclosed or suggested by the art of record. Thus, dependent Claim 3 is therefore believed patentable.

Similarly, independent Claim 9 has been amended to recite a method for illuminating a human face in an object recognition system by "controlling an illumination level of a **visible** light source directed toward said human face to achieve **contrast** on said human face to capture an image thereof." Thus, the arguments in favor of patentability presented above with respect to Claim 1 apply equally to Claim 9. Applicant therefore respectfully asserts that Claims 1, 3 and 9 are patentable over the cited reference and request that the rejection to these claims be withdrawn.

Claim Rejections under 35 U.S.C. § 103(a)

CLAIM 2

On page 4 of the Office Action, Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Pavlidis in view of U.S. Patent Application No.: 2003/0063006 A1 Gutta et al. ("Gutta").

Claim 2 has been amended to include all the elements of amended Claim 1, as well as the feature "wherein said light source controller is configured to establish a first illumination level for said **visible** light source when ambient light **in an area proximate to said human face** is at a first ambient light level" (emphasis added). Neither Pavlidis nor Gutta, standing alone or in combination, teach, disclose or suggest the feature of determining the ambient light level "in an area proximate to said human face." By limiting the detection area of the ambient light level, Applicant's invention ensures that the ambient light level detected is accurate to provide the appropriate contrast level for capturing image data.

Additionally, the Office Action characterizes Pavlidis as disclosing all elements as recited in Claim 2, with the exception of the feature "wherein said first illumination level is higher than second illumination level." The Office Action relies upon Gutta to teach this additional limitation. Specifically, Gutta is interpreted as disclosing a light source that is much brighter than other ambient sources. The Office Action further reasons that because the illumination level is much higher than the ambient level, then "if the first ambient level is higher than the second ambient light level then the first illumination level is higher than said second illumination level." Applicant respectfully disagrees with this reasoning and asserts that Gutta does not teach or suggest this feature of Claim 2.

Gutta does disclose an illuminating light source; however, Gutta does not disclose *any* relationship between ***ambient*** light levels that would, in turn, define a relationship between ***illuminating*** light levels of the ***light source***. Gutta merely discloses that "[i]nstead of relying on specified spectral properties of the light source 355 and the camera 350, the light from the source

355 could instead be much brighter than other ambient sources." *See* Gutta, page 3, ¶ [0030]. Thus, Gutta discloses having the light source set at ***one*** level—a level "much brighter than ambient sources." There is no implied relationship between ambient light levels and the illuminating light levels emitted from the light source. On the contrary, ambient light "is a term used by photographers, cinematographers and other practitioners of the visual arts to refer to the illumination surrounding a subject or scene, specifically any and all light *not* provided by the photographer."[3] Thus, the ***illuminating light level*** of a light source is specifically excluded from the meaning of the term "ambient light" and there is absolutely no relationship between these two terms defined or disclosed by Gutta. Therefore, because Pavlidis does not teach, anticipate, or suggest each and every element of amended Claim 2, either standing alone or in combination with Gutta, Applicant believes Claim 2, as amended, is sufficient to overcome the rejection under 35 U.S.C. § 103(a). The withdrawal of this rejection is earnestly solicited.

CLAIMS 4-7 AND 10-12

On page 5 of the Office Action, of the Office Action, Claims 4-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Pavlidis in view of U.S. Patent No.: 2.913,636 to Morrow ("Morrow").

On page 7 of the Office Action, Claims 10-11 are also rejected under 35 U.S.C. §103(a) as being unpatentable over Pavlidis in view of Morrow.

[3] *See* http://en.wikipedia.org/wiki/Ambient_light.

On page 8 of the Office Action, Claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over Pavlidis in view of Morrow as applied to Claim 11 above, and further in view of Gutta.

Claims 4-7 and 10-12 are each dependent either directly or indirectly from one or another of independent Claims 1 and 9 discussed above. These claims recite additional limitations which, in conformity with the features of their corresponding independent claim, are not disclosed or suggested by the art of record. The dependent claims are therefore believed patentable. However, the individual reconsideration of the patentability of each claim on it own merits is respectfully requested.

CLAIM 14

On page 9 of the Office Action, Claim 14 is rejected under 35 U.S.C. §103(a) as being unpatentable over Pavlidis, in view of U.S. Patent No.: 7.130,454 B1 to Berube et al ("Berube"). Applicant respectfully asserts that amended independent Claim 14 is patentable over Pavlidis and Berube, whether considered separately or in combination.

Regarding independent Claim 14, Applicant has herein amended Claim 14 to recite a method for controlling access of a person to a secure area, wherein the method includes features now present in amended Claims 1 and 9, *inter alia*, "detecting an ambient light level in an area proximate to a face of said person" and "setting an illumination level for said face, the illumination level sufficient to achieve contrast on said face to capture an image thereof" (emphasis added). Thus, the arguments in favor of patentability presented above with respect to Claims 1 and 9 apply equally to Claim 14. Additionally, as discussed in relation to Claim 2

above, neither Pavlidis nor Berube, standing alone or in combination, teach, disclose, or suggest detecting an ambient light level in an area **proximate to the face** of a person. Applicant therefore respectfully asserts that Claim 14 is patentable over the cited references and request that the rejection to this claim be withdrawn.

CLAIMS 15-17

On page 10 of the Office Action, Claims 15-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Pavlidis, in view of Berube as applied to Claim 14 above, and further in view of Morrow.

On page 12 of the Office Action, Claim 17 is rejected under 35 U.S.C. §103(a) as being unpatentable over Pavlidis, in view of Berube and in view of Morrow as applied to Claim 16 above, and further in view of Gutta.

Claims 15-17 are each dependent either directly or indirectly from independent Claim 14. These claims recite additional limitations which, in conformity with the features of Claim 14, are not disclosed or suggested by the art of record. The dependent claims are therefore believed patentable. However, the individual reconsideration of the patentability of each claim on it own merits is respectfully requested

For all of the above reasons, the claim objections are believed to have been overcome placing Claims 1-7, 9-12 and 14-17 in condition for allowance, and reconsideration and allowance thereof is respectfully requested.

The Examiner is encouraged to telephone the undersigned to discuss any matter that would expedite allowance of the present application. Applicant requests a one-month extension

of time for filing the present amendment. Fees for the requested extension of time are included herewith.

The Commissioner is hereby authorized to credit overpayments or charge payment of any additional fees associated with this communication to Deposit Account No. 502104.

Respectfully submitted,

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By: **/Alan M. Weisberg/**

Alan M. Weisberg
Reg. No.: 43,982
Attorney for Applicant(s)
Christopher & Weisberg, P.A.
200 East Las Olas Boulevard, Suite 2040
Fort Lauderdale, Florida 33301
Customer No. 70757
Tel: (954) 828-1488
Fax: (954) 828-9122
email: ptomail@cwiplaw.com

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